

### Affidavit of Publication

STATE OF NEVADA,  
County of Washoe—SS.

E. Gorton Covington

being duly sworn, deposes and says that he is the

Record Clerk

of The SPARKS TRIBUNE, a weekly newspaper,  
published in Sparks, Washoe County, Nevada; that  
he has charge of and knows the advertising ap-  
pearing in said newspaper, and the

Notice of County Ordinance

Bill No. 426, Ordinance No. 263

of which a copy is hereunto attached, was first  
published in said newspaper in its issue dated

March 20, 1975

and was published in each of the following issues  
thereafter:

the date of the last publication being in the issue  
of March 27, 1975

E. Gorton Covington

Subscribed and sworn to before me this, the

27th day of March, 1975

Lucille Lee

Notary Public in and for the County of Washoe,  
State of Nevada.

My Commission expires: Jan 16 1978

LUCILLE LEE  
Notary Public—State of Nevada  
Washoe County  
My Commission Expires Jan. 16, 1978

#### NOTICE OF COUNTY ORDINANCE

Notice is hereby given that Bill No. 426, Ordinance No. 263, an ordinance to amend Ordinance No. 83 entitled "An ordinance regulating the design, erection, construction, enlargement, alteration, repair, moving, removal, conversion, demolition, occupancy, equipment, use, height, area, maintenance, excavation and foundation of any building or structure in the unincorporated area of Washoe County; providing for the issuance of permits, collection of fees, and administration of the uniform building code incorporated herein; providing a method for the classification and abatement of any unsafe and dangerous building or structure within the unincorporated area of Washoe County; adopting a special set of regulations pertaining to construction of any one- or two-story dwelling of stud wall or masonry construction in the unincorporated area of Washoe County; adopting requirements for insulation standards for all structural occupancies; providing the parameters of thermal design calculations to be made thereunder; providing penalties for the violation of any regulation adopted herein; and repealing all ordinances and parts of ordinances in conflict herewith; and other matters properly relating thereto," was adopted by Commissioner Scott, Crow, Rusk, Nelson and Gaunt all voting aye on March 17, 1975.

Typewritten copies of the Ordinance are available for inspection by all interested persons at the office of the County Clerk.

Alex Coon  
ALEX COON, County Clerk

Publish Sparks Tribune  
on March 20 and 27, 1975



**SUMMARY:** Reenacting Revised Ordinance No. 83 which adopts certain volumes of the Uniform Building Code together with Exhibit "A" attached thereto, for the purpose of providing uniform regulations for the design, construction, use, and maintenance of any building or structure and of establishing procedures to classify, repair, vacate, and abate any dangerous building within Washoe County, and adding Exhibit "B", adopting requirements for insulation standards for all structural occupancies, and Exhibit "C", adopting parameters of thermal design calculations.

BILL NO. 426

ORDINANCE NO. 263

AN ORDINANCE REGULATING THE DESIGN, ERECTION, CONSTRUCTION, ENLARGEMENT, ALTERATION, REPAIR, MOVING, REMOVAL, CONVERSION, DEMOLITION, OCCUPANCY, EQUIPMENT, USE, HEIGHT, AREA, MAINTENANCE, EXCAVATION AND FOUNDATION OF ANY BUILDING OR STRUCTURE IN THE UNINCORPORATED AREA OF WASHOE COUNTY; PROVIDING FOR THE ISSUANCE OF PERMITS, COLLECTION OF FEES, AND ADMINISTRATION OF THE UNIFORM BUILDING CODE INCORPORATED HEREIN; PROVIDING A METHOD FOR THE CLASSIFICATION AND ABATEMENT OF ANY UNSAFE AND DANGEROUS BUILDING OR STRUCTURE WITHIN THE UNINCORPORATED AREA OF WASHOE COUNTY; ADOPTING A SPECIAL SET OF REGULATIONS PERTAINING TO CONSTRUCTION OF ANY ONE-OR TWO-STORY DWELLING OF STUD WALL OR MASONRY CONSTRUCTION IN THE UNINCORPORATED AREA OF WASHOE COUNTY; ADOPTING REQUIREMENTS FOR INSULATION STANDARDS FOR ALL STRUCTURAL OCCUPANCIES; PROVIDING THE PARAMETERS OF THERMAL DESIGN CALCULATIONS TO BE MADE THEREUNDER; PROVIDING PENALTIES FOR THE VIOLATION OF ANY REGULATION ADOPTED HEREIN; AND REPEALING ALL ORDINANCES AND PARTS OF ORDINANCES IN CONFLICT HERewith; AND OTHER MATTERS PROPERLY RELATING THERETO.

THE BOARD OF COUNTY COMMISSIONERS OF THE COUNTY OF WASHOE DO ORDAIN:

SECTION 1.

Section 1 of Ordinance No. 83 is hereby amended to read as follows:

SECTION 1.

The "Uniform Building Code," 1973 Edition, together with the "Uniform Code for the Abatement of Dangerous Buildings", 1973 Edition, and the Code known as "Dwelling Construction Under the Uniform Building Code", 1973 Edition, all as approved and published by the International Conference of Building Officials, copies of which are placed on file in the Office of the County Clerk of Washoe County, Nevada, together with such changes as are necessary to make the same applicable to conditions in the County of Washoe and such other changes as are desirable, which changes are contained in that document marked Exhibit "A", attached hereto; and together with Exhibit "B", which provides for requirements for insulation standards for all structural occupancies, and Exhibit "C" which provides for the parameters of thermal design calculations to be made hereunder shall be and hereby are adopted by reference, incorporated herein, and made a part hereof, and shall regulate all matters contained therein.



SECTION 2.

Section 2 of Ordinance No. 83 is hereby amended to read as follows:

SECTION 2.

Ordinance No. 47 of the County of Washoe entitled, "An ordinance adopting a building code regulating the erection, enlargement, alteration, repair and moving of residential structures; establishing a building department, building inspector; providing for the issuance of permits and the collection of fees therefor; providing penalties for the violation thereof, repealing all ordinances in conflict therewith and other matters relating thereto" is repealed and all other ordinances or parts of ordinances in conflict herewith are hereby repealed, including any provisions of Ordinance No. 83 as amended herein which refer to the 1970 Edition of the Uniform Building Code.

SECTION 3.

Section 3 of Ordinance No. 83 is hereby amended to read as follows:

SECTION 3.

Any person, firm, association or corporation violating any of the provisions of the 1973 Editions of the "Uniform Building Code," and including Exhibits "A", "B", and "C" enacted hereunder, "Uniform Code for the Abatement of Dangerous Buildings", 1973 Edition, and "Dwelling Construction Under the Uniform Building Code", 1973 Edition, incorporated by this Ordinance shall be deemed guilty of a separate offense for each and every day or portion thereof during which a violation of any of the aforesaid provisions is committed, continued, or permitted, and upon a determination or finding of any such violation such person shall be punished by a fine of not more than \$500.00.

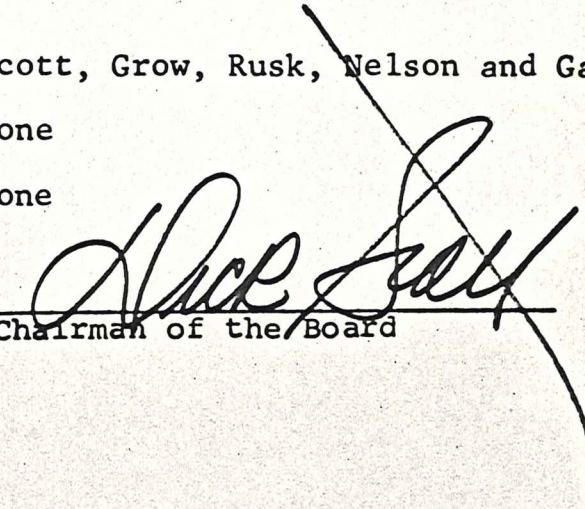
SECTION 4.

This Ordinance shall be in full force and effect from and after its passage and approval as prescribed by NRS 244.105.

Proposed on the 5th day of March, 1975.  
Proposed by Commissioners Scott, Grow, Rusk, Nelson and Gaunt.  
Passed on the 17th day of March, 1975.

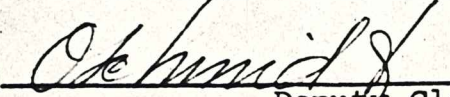
VOTE:

Ayes: Commissioners: Scott, Grow, Rusk, Nelson and Gaunt.  
Nays: Commissioners: None  
Absent: Commissioners: None

  
Chairman of the Board

ATTEST:

ALEX COON, WASHOE COUNTY CLERK

By:   
Deputy Clerk



This Ordinance shall be in full force and effect from and after  
the 27th day of March, 1975.



EXHIBIT A

All references in the 1973 Editions of the "Uniform Building Code," "Uniform Code for the Abatement of Dangerous Buildings," and "Dwelling Construction Under the Uniform Building Code" incorporated by this Ordinance that refer to "City", "municipality", and the like shall be construed to mean the County of Washoe. Where the word "City Council" appears, it shall be construed to mean the Board of Commissioners of Washoe County. Where the word "Mayor" appears, it shall be construed to mean the Chairman or acting Chairman of the Board of Commissioners of Washoe County. Where the word "City Clerk" appears; it shall be construed to mean the Washoe County Clerk. . . Wherever other words appear in the Volumes in question referring to public officials charged with the responsibility of administering a particular provision of the Code in question, such as Director of Public Works or Building Official, it shall be construed to mean that official or employee of Washoe County charged with the responsibility of carrying out the duties of the office in question, as defined or referred to in the afore-said Uniform Building Code.

I. Uniform Building Code, 1973 Edition.

The following changes, additions, and deletions in the 1973 Edition of the Uniform Building Code are hereby incorporated into the provisions of said Volume:

A. CHAPTER 2 - Organization and Enforcement

1. SECTION 202 (e) Stop Orders - add the following paragraph. Whenever the Building Official has ordered work to stop in order to correct a deficiency (such as obtaining a building permit), such person must either correct the deficiency or make some substantial effort to correct said deficiency within two (2) days after service of the Stop Work Order. Failure of a person served with a Stop Work Order to correct a deficiency within the time stated in this subsection may result in the issuance of a citation by the Building Official to the person responsible, subjecting said person to the penalties stated in Section 205.
2. SECTION 204 Board of Appeals - add the following paragraph. The fee for filing a Notice of Appeal is twenty-five dollars (\$25.00) to be paid to the Building Inspector and deposited to the General Fund of the County.
3. SECTION 205 Violations and Penalties - delete the second paragraph and add in its place the following: Any person, firm, or corporation violating any of the provisions of this Code shall be deemed guilty of a separate offense for each and every day or portion thereof during which any violation of any of the provisions of this Code is committed, continued, or permitted, and upon conviction



of any such violation such person shall be punished by a fine of not more than \$500.00, except that any person served with a citation by the Building Official for failure to comply with a Stop Work Order in accordance with the provisions of Section 202 (e), supra, shall upon conviction be punishable by a fine of not less than fifty (\$50.00) dollars and not more than one hundred and fifty (\$150.00) dollars.

B. CHAPTER 3 - Permits and Inspections

1. SECTION 301 (c) Plans and Specifications - amend by deleting and adding in the place of this paragraph the following:

(c) Plans and Specifications.

With each application for a building permit, and when required by the Building Official for enforcement of any provisions of the Code, two sets of plans and specifications shall be submitted. The Building Official may require plans and specifications to be prepared and designed by an engineer or architect licensed by the State of Nevada to practice as such. Plot plans, when required, shall show elevations and drainage and shall be drawn to scale and verified by a registered architect, civil engineer, licensed contractor or land surveyor.

2. SECTION 302 (a) Issuance - add the following paragraphs:

The Building Official may issue a comprehensive permit (including permits required for specialty contractors) to be taken out by general contractors on all buildings.

Before such permit is issued, the NAME, ADDRESS, AND STATE LICENSE NUMBER of the general contractor shall be furnished to the Building Official.

The address of each Building shall be posted by the Contractor in the location designated by the Building Official and shall be posted on all existing buildings.

Permits for Commercial work shall be issued only to persons in conformance with Nevada State Contractor's Laws.

3. SECTION 303 Fees - add the following paragraphs (e), (f), and (g):

(e) Duplicate Inspection Cards. A charge of One dollar (\$1.00) will be made for duplicating lost inspection cards.

(f) Inspection Fees. An inspection fee of \$5.00 plus \$.10 a mile will be charged for all inspections not covered by building permits, for change of license, for Certificate of Occupancy and for houses to be moved. A fee



of \$.10 a mile will be charged for each reinspection in addition to the fee charged in accordance with subparagraph (d) above.

(g) Fees Not Refundable. Fees of less than \$50.00 shall not be refunded.

4. SECTION 306 (a) Use or Occupancy - Delete letter H and add J in the second line of said Section.

C. CHAPTER 3A - Moving of Structures. Add the following Chapter:

SECTION 3A01 Consent to move

Except as otherwise provided, it shall be unlawful for any person to move any existing building or structure of any kind or description into or within the unincorporated area of Washoe County without a permit to move said building or structure as hereinafter provided in this chapter and Chapter 3 of the Uniform Building Code.

This chapter shall not apply to mobile homes, trailers or other structures permanently affixed on wheels or prefabricated structures as defined in Chapter 50 of the Uniform Building Code which prefabricated structures have not been previously occupied.

SECTION 3A02 - Application - Public Hearing

Except as otherwise provided, any person desiring or intending to move any building or structure into or within the unincorporated area of Washoe County shall first file an application with the Washoe County Board of Adjustment. Such application shall include the following:

- (a) The existing location of the building or structure intended to be moved.
- (b) The size and character of said building or structure.
- (c) The proposed new location of said building or structure. The method of moving and the proposed route to be followed.
- (d) Statement of purpose for which the building or structure is to be used in its new location, specifying improvements and modifications to be made and such other information as that Department may reasonably require in order to carry out the purpose of this section.
- (e) A list of all owners of real property within 300 feet of the exterior limits of the property onto which the building or structure is to be moved, as indicated by



the records of the County Assessor.

The Board of Adjustment except as otherwise provided shall hold a public hearing upon the application no later than 15 days from the date of filing of the application. Notice by regular mail of the time, place and purpose of said hearing shall be given not less than 10 days prior to the date of the hearing to the following:

- (a) Applicant for permit to move the building or structure.
- (b) Owners of real property within 300 feet of the exterior limits of the property onto which the building or structure is to be moved. Notice by mail shall be effected when notice is directed by regular mail to the said owner's last address.
- (c) The Building Official, County Engineer and Health Department.

The Board of Adjustment may hear facts from any person appearing and may consider written communications relative to the application and shall deny a permit when:

- (a) Any unlawful, dangerous or defective condition of a building proposed to be moved is such that remedy or correction cannot effectively be made or which cannot be repaired or reconstructed to conform to the requirements of the Uniform Building Code, or
- (b) The use of the proposed site of the purpose intended is prohibited by zoning laws of this County, or
- (c) The structure is of a type prohibited at the proposed location by any other law or ordinance.

The Board of Adjustment shall within 5 days from the date of hearing, rule upon the application unless good cause is shown for and extension thereof. The applicant, owners of real property within 300 feet of the exterior limits of the property involved, the Building Official, County Engineer, the Health Department and the Board of County Commissioners shall be notified of the decision of the Board of Adjustment not later than 3 days after the decision is rendered. If said application is denied said notice shall also contain the reason or reasons for denial.

If a building or structure to be moved is to be permanently affixed within the corporate limits of any city of or beyond the boundaries of Washoe County, any person intending to move said building or structure shall file an application with the



Building Official, which application shall include the following:

- (a) The existing location of the building or structure intended to be moved.
- (b) The size and character of said building or structure.
- (c) The proposed new location of said building or structure, the method of moving and the proposed route to be followed.

Pursuant to the above paragraph, the Building Official may issue a permit to move said building or structure only after the posting of the bonds as prescribed in Section 3A04 and Section 3A05 of this Chapter.

SECTION 3A03 Appeals.

The decision of the Board of Adjustment granting or denying the application for a permit to move a building or structure may be appealed by the applicant, any person notified of the hearing or who appeared and presented oral or written testimony at said hearing by filing a Notice of Appeal with the Board of County Commissioners and paying a fee of twenty-five dollars (\$25.00) within 10 days after the Board of Adjustment has notified the County Clerk of its decision pursuant to Section 3A02 of this chapter. Such Notice of Appeal shall state the reason or reasons the decision of the Board of Adjustment should be amended, modified or reversed. If no appeal from said decision is taken to the Board of County Commissioners within the time allowed, such decision shall be final.

The County Commissioners shall set a hearing on the appeal from the decision granting or denying the application for a permit pursuant to this chapter no later than 30 days from date of receipt of the petition of appeal. Notice of the hearing shall be given by the County Clerk by mail to the appellant, the applicant for the permit and to all owners of property within 300 feet of the property on to which the building is to be moved at least 10 days before the date of the hearing in the same manner as set forth in Section 3A02 of this Chapter. The Board of County Commissioners may consider all evidence relative to the application and may affirm, reverse or otherwise modify the decision of the Board of Adjustment by majority vote.

SECTION 3A04 Mover's Bond

If the application for a permit to move a building or structure is granted pursuant to this chapter, the person intending to move the building or structure shall post a bond with the Building Official in the sum of not less than \$1,000.00 in cash, by certified check or with a



company qualified to do business of surety in the State of Nevada in a form approved by the Building Official and the Office of the District Attorney. Said bond shall guarantee that said person intending to move the building or structure shall pay for all damages that may accrue to the streets, roads or other public rights-of-way of the County of Washoe or to any property of the County or to the property of any person in the moving of the building or structure, and that said person will pay all damages and costs and expenses necessary for the removal of, or the changing of any telephone, telegraph, electric light, or any other wires used for public convenience in the unincorporated area of the County, and all damages for the removal of any poles in the streets or sidewalks or alleys in the unincorporated areas of the County. Said bond may be sued upon and collected upon by any person in any manner damaged by the moving of any building or structure into or within the unincorporated area of the County until the full amount of the bond has been exhausted.

SECTION 3A05 Owner's Bond.

The owner of a building or structure which is to be moved pursuant to this chapter shall post with the Building Official a bond in an amount estimated by the Building Official to assure compliance with all terms and conditions to which the permit therefor is subject, but not to exceed Seven Thousand dollars (\$7,000.00) per structure unit in cash, by certified check or with a company qualified to do business of surety in the State of Nevada, in a form approved by the Building Official and the Office of the District Attorney. Each bond posted pursuant to this section shall guarantee full compliance with all terms and conditions as specified upon the permit issued pursuant to this chapter and the requirements set forth in Section 3A06 of this Chapter.

SECTION 3A06 Default in Performance of Conditions.

Whenever the Building Official shall find that a default has occurred in the performance of any term or condition of any permit issued pursuant to this chapter, written notice thereof shall be given to the principal and to the surety on the bond within 10 days from the determination of default. Such requirement for written notice shall be complied with if directed to the address given by the principal upon the application for the permit. Such notice shall specify the work to be done, the estimated costs thereof, and the period of time deemed by the Building Official to be reasonably necessary for the completion of such work.

After receipt of such notice, the surety must, within the time therein specified, either cause the required work to be performed, or failing therein, must pay to the Building



Official the estimated cost of doing the work as set forth in the notice. Upon receipt of such moneys, the Building Official shall proceed by such mode as he deems convenient to cause the required work to be performed and completed, but no liability shall be incurred therein other than for the expenditure of the said sum.

If a cash bond has been posted, notice of default as provided above shall be given to the principal, and if the compliance is not obtained within the time specified, the Building Official may proceed without further notice to use the cash deposit or any portion of such deposit to cause to be done, by contract or otherwise, the work necessary to meet the terms and conditions imposed by the permit. The balance, if any, of such cash deposit shall upon completion of the work be returned to the depositor or to his successors or assigns.

When any default has occurred on the part of the principal under the preceding provisions, the surety shall have the option, in lieu of completing the work required, of demolishing the building or structure and clearing, cleaning and restoring the site. If the surety defaults, then the Building Official shall have the same option.

The term of such bond posted pursuant to Section 3A05 shall begin upon the date of the posting thereof and shall end upon performance of all the terms and conditions of the permit. Such completion shall be evidenced by a statement thereof signed by the Building Official, a copy of which shall be sent to the surety or principal upon request. When a cash bond has been posted, the cash shall be returned to the depositor or to his successors or assigns upon the termination of the bond, except any portion thereof that may have been used or deducted as provided elsewhere in this section.

The Building Official, the surety and the duly authorized representatives of either, shall have access to the premises described in the permit, for the purpose of inspecting the progress of the work.

In the event of any default in the performances of any term or condition of the permit, the surety, or any person employed or engaged in its behalf, or the Building Official, or any person employed or engaged in his behalf, shall have the right to go upon the premises to complete the required work or to remove or demolish the building or structure.

It shall be unlawful for the owner or his representatives, successors or assigns, or any other persons, to interfere with or obstruct the ingress or egress to or from any such premises of any authorized representative or agent,



of any surety, or of the County, engaged in the work of completing, demolishing or removing any building or structure for which a permit has been issued after default has occurred in the performance of the terms of conditions thereof.

SECTION 3A07 Permit

The County Engineer shall designate on the permit to be issued pursuant to this chapter the route over which the building or structure shall pass and the time within which the same shall be moved.

Except as provided in Section 3A02 of this chapter, the Building Official may issue a permit only after the owner of the building or structure to be moved posts a bond with the Building Official pursuant to Section 3A05 of this chapter and the applicant for said permit secures the approval of the Board of Adjustment or the Board of County Commissioners, and posts a bond with the Building Official pursuant to Section 3A04 of this chapter.

SECTION 3A08 Notice to Public Utilities

Upon receiving a permit to move a building into or within the unincorporated area of the County, the person receiving such permit shall serve a copy thereof by registered mail upon the superintendent or local manager of any company or person owning or controlling telegraph, telephone, electric light or other wires running under, over, through or across the roads, streets and other public rights-of-way within the unincorporated area of Washoe County where it will be necessary to raise, cut or interfere with the wires in the moving of any structure, together with a notice as to the time when it will be necessary to interfere with the wires or with the poles holding the wires. The Company owning or controlling the wires may then raise or cut or remove the wires to permit the moving of the building or structure, and the expense therefor shall be paid by the person moving the building or structure and if not so paid action may be taken upon the bond prescribed in Section 3A04 of this Chapter. In the event the route designated by the County Engineer follows across a federal-aid-highway or highways controlled by the State of Nevada, the State Highway Engineer shall be served by the person receiving such permit with a copy thereof by registered mail. Further, if the route designated by the County Engineer crosses the right-of-way of any railroad, the local agent of said railroad shall be served with a copy of said permit by registered mail. No building or structure in process of removal shall be allowed to stop at any time on any street, road or public right-of-way within the unincorporated area of Washoe County without the written approval of the County Engineer.

D. CHAPTER 11 - Requirements for Group F Occupancies.



1. SECTION 1105 - Light, Ventilation and Sanitation - add the following paragraph:

Special Provisions: Ceilings for Commercial dining rooms and kitchens shall have a minimum height of nine (9) feet.

2. SECTION 1108 - Special Hazards - add the following paragraph after EXCEPTIONS:

At no time shall Class 1 Flammable liquids be dispensed by any automatic vending, coin-operated machines or by self-service or by any other means other than direct delivery by service station owner or by competent employed attendant, who, in making of such direct delivery, shall at all times be in a position where he will have full control of the flow or delivery of such liquids.

E. CHAPTER 13 - Requirements for Group H Occupancies.

1. SECTION 1302 - Construction, Height and Allowable Area - add paragraph (c)

(c) Burn Requirements. Burn-through time for all component wall assemblies shall be a minimum of 45 minutes, as tested by a nationally approved testing agency.

E-1. CHAPTER 14 - Requirements for Group I occupancies.

1. SECTION 1402 - Construction, Height and Allowable Area - add paragraphs (a) and (b).

(a) Burn Requirements. Burn-through time for all component wall assemblies shall be a minimum of 45 minutes, as tested by a nationally approved testing agency.

(b) Floor Construction. A thirty inch by twenty-four inch (30" x 24") minimum access crawl hole shall be provided in exterior foundation wall to the area underlying the floor space of the building.

E-2. CHAPTER 15 - Requirements for Group J Occupancies.

1. SECTION 1507 - Light and Ventilation - section added.



Private garages which are constructed in conjunction with any Group H or I Occupancy and which have openings into such buildings shall be equipped with fixed louvered or screened openings or exhaust ventilation to the outside with exhaust openings located within six inches (6") of the floor. The clear area of the louvered opening or of the openings into the exhaust ducts shall be not less than sixty square inches (60 sq. in.) per car stored in such private garage. Under no circumstances shall a private garage have any opening directly into a room used for sleeping purposes.

F. CHAPTER 17 - Classification of all Buildings by Types of Construction and General Requirements.

1. SECTION 1716 - Guardrails - amend Section to read as follows:

All unenclosed floor and roof openings; open and glazed sides of landings; balconies or porches which are more than 30 inches above grade; and roofs used for other than service of the building, shall be protected by a guardrail. Guardrails shall not be less than 42 inches in height except in H and I occupancies in which event they shall not be less than 36 inches in height. Open guardrails and stair railings shall have intermediate rails or an ornamental pattern such that no object 9 inches in diameter can pass through. The height of stair railings may be as specified in Section 3305 (i).

EXCEPTION: Guardrails need not be provided on the loading side of loading docks.

G. CHAPTER 23 - General Design Requirements.

1. SECTION 2305 (a) General - amend by changing

"Table No. 23-B" to read "Tables No. 23 B1 and 23-B2":

TABLE 23-B1 Roof Live Loads - Pounds per Square Foot  
ELEVATIONS below 5000 feet above sea level

<u>Roof Slope</u>	<u>Live Loads</u>
Flat or rise less than 4 inches per foot	
Arch or Dome with rise less than 1/8 span -----	20 lbs/sq. ft.
Rise 4 inches per foot to less than 12 inches	
Arch or Dome with rise 1/8 span to less than 3/8 span -----	16 lbs/sq. ft.
Rise 12 inches per foot or greater -----	16 lbs/sq. ft.



TABLE 23-B2 Roof Live Loads - Pounds per Square Foot  
Elevations at or above 5000 feet above sea level 3  
Snow Load in lbs/sq. ft. 2

All manufacturers trusses must be certified stamped.

<u>ELEVATION Above Sea</u> <u>Level in Feet</u>	<u>LAKE TAHOE</u> <u>BASIN</u>	<u>ALL WASHOE COUNTY</u> <u>except LAKE TAHOE BASIN</u>
5,000		40
5,500		80
6,000	155	100
6,500	165	120
7,000	175	140
7,500	185	150
8,000	200	160
8,500	225	170
9,000	250	190
9,500	275	210
10,000	300	250

1. Intermediate Values may be interpolated by proportion.
2. Deviations from the above set forth snow loadings above 5000 feet elevation may be permitted by the Building Official provided the snow load and conditions in each individual case are derived, and certified to, by a Registered Structural Engineer who can show experience in snow load evaluation.
3. In the design of buildings and structures above the 5000 ft. elevation, consideration shall be given to the following:
  - (a) Unbalanced loading roofs.
  - (b) Drifting due to adjacent obstructions.
  - (c) Accumulation in valleys and adjacent to parapet walls and chimneys.
  - (d) Ice loading on cornices.
  - (e) Possible impact loadings from snow falling on structure from higher roofs.
  - (f) Effect on structure from dynamic loading caused by snow sliding off roof.
  - (g) Snow sliding off roof and dynamically loading side embankment adjacent to the structure.
  - (h) Permanent automatic roof heating system.



(i) Protection of entrances and exits from danger of falling icicles and snow sliding off pitched roofs.

- 4. 80% of the tabulated values in Table 23-B2 may be used with roofs having a pitch of between 6 in 12 and 12 in 12.
- 5. 60% of the tabulated values in Table 23-B2 may be used with roofs having a pitch in excess of 12 in 12.

H. CHAPTER 25 - Wood.

1. SECTION 2518 (f) - Wall Framing - amend part 3 to read as follows:

3. Spacing. Studs supporting floors shall be spaced not more than 16 inches. The spacing of 2-by 4-inch studs may be spaced not more than 16 inches on center on all bearing walls. The spacing of studs in non-bearing walls shall not exceed 24 inches on center. The spacing of 2-by 3-inch studs shall not exceed 16 inches on center.

TABLE 25-Q - Delete reference to Utility under sheathing lumber minimum grade requirements.

I. CHAPTER 29 - Excavations, Foundations, and Retaining Walls

1. SECTION 2907 (a) - add the following paragraph to this subsection:

The depth of frost penetration shall be assumed to be twenty-four (24") inches. All footings shall therefore be at least twenty-four (24") inches below finished grade. (Ref. Table 29-A and Section 2905 (a).) Said Table and Section shall be amended to reflect the above frost penetration requirement as set forth below.

2. SECTION 2907 (b) - Bearing Walls.

Delete - Exception No. 1 under this subparagraph and retain Exception No. 2 as No. 1.

3. TABLE NO. 29-A - Foundations for Stud Bearing Walls Minimum Requirements - Delete - Table No. 29-A and Insert the following amended Table:

Amended TABLE 29-A - Foundations for Stud Bearing Walls Minimum Requirements



Number of Stories	Thickness of Foundation Wall (Inches)		Width of Footing (Inches)	Thickness of Footing (Inches)	Depth of Foundation Below Natural Surface of Ground & Finish Grade (Inches)
	Con- crete	Unit Masonry			
1	6	8	12	8	24
2	8	8	15	8	24
3	10	10	18	10	24

Note: In lieu of Table 29-A, foundations and footings may be designed by registered architects or engineers.

J. CHAPTER 32 - Roof Construction and Covering

1. SECTION 3202 Construction. add the following sentence to the second paragraph:

Plywood must contain minimum of 5 ply  $\frac{1}{2}$ ".

2. SECTION 3206 - Smoke and Heat Venting. Amend subsection (a) (1.), so that it reads as follows:

1. In groups G and F Occupancies over 25,000 square feet in single floor area.

Amend subsection (f) (4.), so that it reads as follows:

"4. Spacing. The distance between curtain boards shall not exceed 160 feet and the curtained area shall be limited to 25,000 sq. ft. In group E Occupancies, the distance between curtain board shall not exceed 100 feet and the curtained area shall be limited to 15,000 sq. ft."

K. CHAPTER 44 - Protection of Pedestrians During Construction or Demolition.

1. SECTION 4407 - Add the following paragraph to subsection (a):

"When an abandoned pit or excavation occurs on any property, the owner shall at all times protect same with a substantial handrail barricade not less than three feet (3') high along all exposed sides. Excavation shall not be left open longer than forty-eight (48) hours."



L. CHAPTER 45 - Permanent Occupancy of Public Property.

1. SECTION 4503 - Space Below Sidewalk. This section is amended to read as follows:

"The space adjoining a building below a sidewalk on public property may be used and occupied in connection with the building for any purpose as may be permitted and designated by the Washoe County Commissioners in writing, on condition that the right so to use and occupy may be revoked by the County at any time and that the owner of the building will construct the necessary walls and footings to separate such space from the building and pay all costs and expenses attendant therewith.

Footings located at least eight feet (8') below grade may project not more than twelve inches (12").

APPENDIX, A-1313, page 633.

M. CHAPTER 13 - Existing Buildings

1. SECTION 1313 (b) Scope - amend to read as follows:

The provisions of this Section shall apply exclusively to existing nonconforming Group H Occupancies more than one story in height.

2. SECTION 1313 (c) Effective Date - amend paragraph to read as follows:

Immediately following the adoption of this Code, the Building Official shall cause an inspection to be made of the existing buildings affected by this Chapter for the purpose of determining compliance or non-compliance therewith. The Building Official shall then notify the owner (s) of each said building of any alterations which are necessary to make the building meet the provisions of this Chapter. No additions, remodeling, or alterations, other than normal maintenance, shall be permitted on this building until they meet the provisions of this Chapter.

N. CHAPTER 70 - Excavation and Grading

1. SECTION 7001. This paragraph is amended to read as follows:

"The purpose of this Chapter is to safeguard life, limb, property and the public welfare by regulating grading on private property and regulating the proper and unobstructed flow of water in natural drainage channels."



2. SECTION 7003. Permits Required.

Delete subparagraphs (1) and (7) from this Section and renumber the remaining subparagraphs (1) through (7), in addition to adding a new subparagraph, renumbered (8.) as discussed below.

Subparagraph (2.), renumbered subparagraph (1.), see above, is amended to read as follows:

"1. An excavation below finished grade for basements and footings of a building, retaining wall or other structure authorized by a valid building permit. This shall not exempt any fill made with the material from such excavation nor exempt any excavation having an unsupported height greater than 2 feet after the completion of such structure."

A new subparagraph shall be added to this Section, which shall read as follows:

"8. (Renumbered) No grading permits shall be issued without the express written consent of the Board of County Commissioners if fill, as defined in this Chapter, is to be placed below a high water line in any natural body of water in the unincorporated area of Washoe County. Natural bodies of water shall include, but not be limited to, Lake Tahoe, Washoe Lakes, and the Truckee River in the unincorporated area of Washoe County. The Board of County Commissioners may, in its discretion, refuse to consent to the issuance of a grading permit if such fill is or would be a hazard or nuisance or if such fill adversely affects the public health, safety or welfare, or if such fill is not or would not be in the public interest."

3. SECTION 7004. Hazards. Add the following paragraph to this section:

"A permit to use explosives or blasting agents must be obtained whenever explosives or blasting agents are used in conjunction with land development."

4. SECTION 7005. Definitions. Add the following definitions to this section:

DRAINAGE CHANNEL shall mean those natural channels, the centerline of which are indicated on the Truckee Meadows Drainage Map, attached hereto and made a part hereof, or any addition or amendments thereto, or any other natural channel or drain which is not specifically shown in said Drainage Map, but which may be shown by surveys, hydrology and hydraulic calculations, or by other means to carry natural runoff or drainage waters.



SETBACK shall mean that area within a specific distance from centerline of drainage channels within which area no buildings, fences, earth or rock fills or other construction which would obstruct or interfere with the flow of water in drainage channels will be permitted.

5. SECTION 7006. Grading Permit Requirements.

Add the following paragraph to subsection (d) (4.), Information on Plans and in Specifications:

"Computation of runoff and flood flow quantities shall include but not be limited to the following methods and data:

- A.) Use of Rational Method of computing runoff for drainage area less than three (3) square miles, where  $Q=CiA$ .

$Q$  = Maximum rate of runoff in cubic feet per second.

$C$  = Runoff coefficient.

$i$  = Average rainfall intensity, in inches per hour, for the period of maximum rainfall of a given frequency of occurrence having a duration equal to the time required for the runoff originating during said period of maximum rainfall to flow from the remotest part of the drainage area to the point under design (time of concentration).

$A$  = Drainage area, in acres, tributary to the point under design.

- B.) Use of hydrograph methods approved by the Building Official for computation of runoff for area larger than three (3) square miles.

- C.) Use of the following rainfall-intensity duration frequency curves "A" or "B" or evidence of an alternate analysis of flood flow frequency or rainfall intensity duration frequency curves shall be developed using data published by the U.S. Weather Bureau or other flood flow frequency or rainfall-intensity duration frequency data acceptable to the Building Official.

- D.) The following return frequencies shall be used in computing flood flow quantities, unless a higher design standard may be required by any Master Plan of Drainage which may hereafter be adopted by the governing body:



- (1) Five (5) years for incidental drainage channels (drainage area less than 1000 acres.)
- (2) Five (5) years for secondary drainage channels (drainage area 1000 to 5000 acres).
- (3) Twenty-five (25) years for major drainage channels (drainage area greater than 5000 acres.)"

Add the following paragraph to subparagraph (f) - Engineering Geology Report:

"Flood flow quantities shall not be required to be computed for rainfall duration of less than 20 minutes unless in the opinion of the design engineer or the Building Official a shorter duration time may be required due to configuration or topography of the drainage area.

Use of the following listed runoff coefficients or evidence of the adequacy or lesser coefficients acceptable to the Building Official.

<u>Description of Area</u>	<u>Runoff Coefficients</u>
Business: Downtown Area	0.70 to 0.95
Neighborhood Area	0.50 to 0.90
Industrial:	0.50 to 0.90
Residential: Single Family Areas	0.40 to 0.50
Multiple Units	0.40 to 0.75
Parks, Playgrounds, Cemeteries	0.20 to 0.35
Unimproved area, including agricultural areas:	

Coefficients used shall be based on the projected use of land within the drainage basin.

A composite runoff coefficient based on the percentage of different types of surface in the drainage area may be developed.

The coefficients are based upon the assumption that the design storm does not occur when the ground surface is frozen.

The following formulas shall be used for determining the time of concentration, using a minimum build up time of twenty (20) minutes. The build up time may be shortened if, in the opinion of the design engineer or Building Official, a shorter time is required due to the configuration or topography of the drainage area:

$$tc_1 = 20 + \frac{L}{V \times 60} \qquad tc_{2,3,4} = \frac{L}{V \times 60}$$



$tc_1$  = time of concentration at initial inlet or design point.

$tc_{2,3,4}$  = time of concentration at any design point.

L = Overland, channel or conduit velocity in feet per second.

Consideration should be given to the fact that in irregularly shaped drainage areas, a part of the area having a shorter time of concentration and thereby subject to a higher intensity-rainfall may cause a greater runoff rate at a design point than that contributed by the entire area with its longer concentration time and correspondingly lower intensity or rainfall.

Design calculations of runoff and hydraulic computation for channels, conduits and other drainage structures shall be submitted along with the detailed plans. All drainage designs shall make provisions for the discharge of drainage water into natural drainage channels at the discharge point of any improvements. Drainage improvements will not be permitted to discharge into irrigation ditches except under conditions acceptable to the Building Official."

6. SECTION 7011 - Setbacks. Add the following paragraph to this Section:

In all cases the following minimum setbacks shall be maintained from the centerline of drainage channels and major irrigation ditches.

1. 15 feet from the centerline of incidental drainage channels (drainage area less than 1000 acres).
2. 25 feet from the centerline of secondary drainage channels (drainage area 1000 to 5000 acres).
3. 50 feet from the centerline of major drainage channels (drainage area greater than 5000 acres).

The setbacks may be modified upon submission of plans for construction of any improvement(s) to drainage channel(s) in question. Improvements shall provide capacity within drainage channels for the free and unobstructed passage of the required flood flow quantity as determined under Section 7006 of this Chapter, as amended above.

The Building Official may require that any such improvement conform to any master plan of drainage as may be presently or hereafter adopted by the County of Washoe.



7. SECTION 7012 - Drainage and Terracing.

Add the following paragraph to subparagraph (b) "Terrace":

"Cut slopes exceeding twenty-five (25') feet in vertical height shall be terraced at their approximate mid-height. Drainage Terraces are to be a minimum of six (6') feet wide, paved and must carry water to a safe disposal area. Terraces shall be cut every twenty-five (25') feet vertically, except where only one terrace is required, it shall be at mid-height. All fill slopes in excess of twenty-five (25') feet vertical height shall have paved drainage terraces at vertical intervals not exceeding twenty-five (25') feet, except that where only one terrace is required it shall be at mid-height. Such terraces shall drain into a paved gutter, pipe or other water-course adequate to convey the water to a safe disposal area. The terrace shall be at least six (6') feet wide. Terrace drains to be 1% minimum grade.

Amend subparagraph (d) "Disposal" by inserting the term "one per cent" in place of "two per cent" in the second paragraph of this subsection.

Add the following subparagraph (e), which shall be entitled "Concrete Slab and Fills.":

"Bases for concrete slab and fills shall be of crusher run gravel or decomposed granite. The Building Inspector may require certification that said material is free from plastics or other foreign matter."

8. SECTION 7013 - Erosion Control.

Add the following paragraph to subparagraph (b) "Other Devices":

"Other devices or methods shall include, but not be limited to, driveway culverts of sufficient diameter to be determined by engineering when required by the Building Official, but not smaller than 12" in diameter."

Add the following subparagraph (c), which shall read as follows:

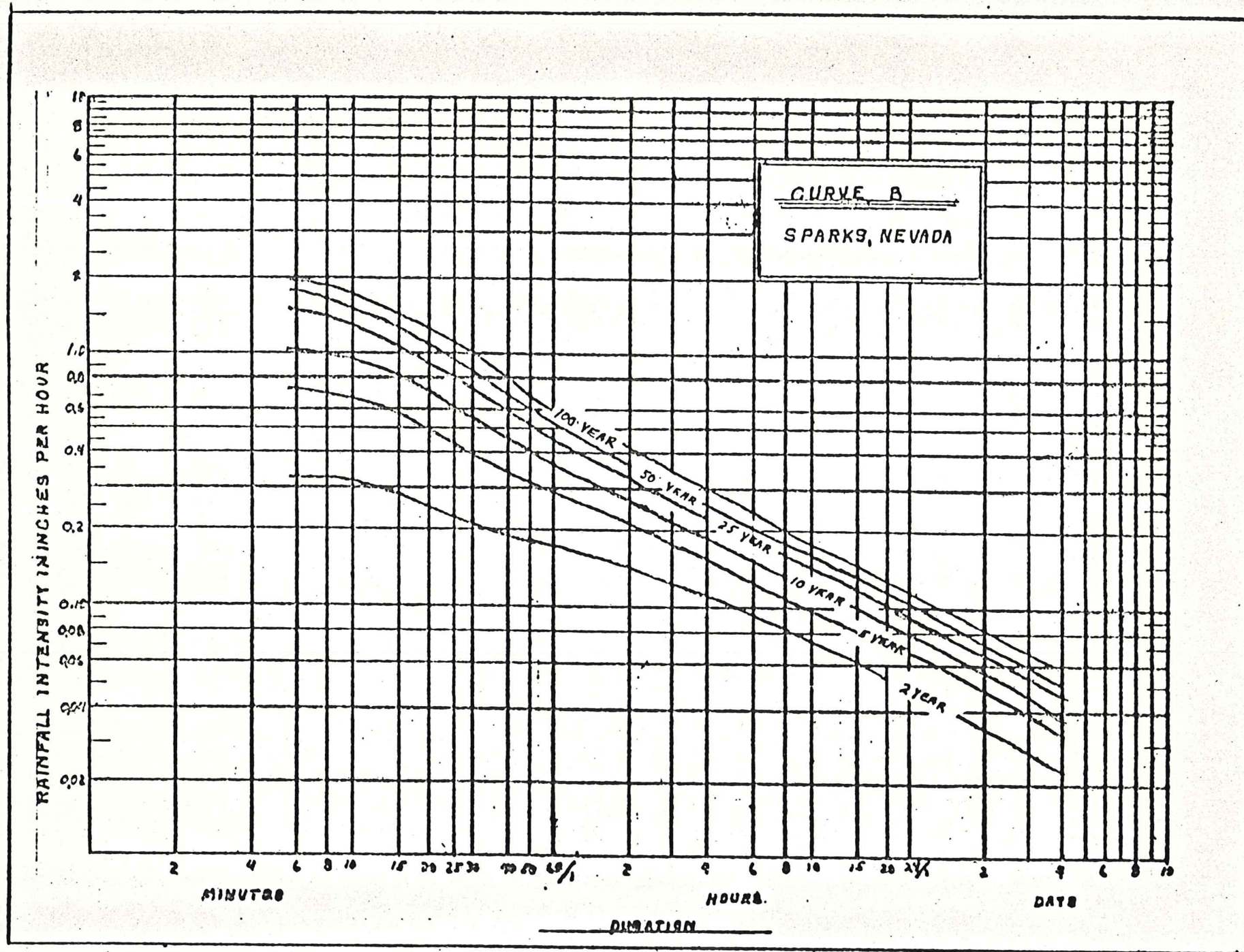
"(c) Fill Slope. No compacted fill shall be made which creates an exposed surface steeper in slope than two horizontal to one vertical. The Building Official may require that the fill be constructed with an exposed surface flatter than two horizontal to one vertical if he finds this necessary for stability and safety."



Add the following subparagraph (d), which shall read as follows:

"(d) Usable Rear, Front and Side Yards. A Usable rear yard shall be provided at least 15 feet deep from building wall to the toe of a slope with vertical height exceeding 15 feet. The horizontal distance of the minimum 15 foot requirement of usable rear yard must be increased at the rate of 1/4 foot horizontal for every foot of bank height over the first 15 feet. A usable front and side yards must be provided, having a maximum slope of 2½ inches per ft. (21 percent) away from building for a minimum 4 foot distance. At toe of slope where height of bank exceeds 4 feet, the horizontal distance of the minimum 4 foot usable yard requirement shall be increased at the rate of ½ foot for every foot of bank height over the first 4 feet.

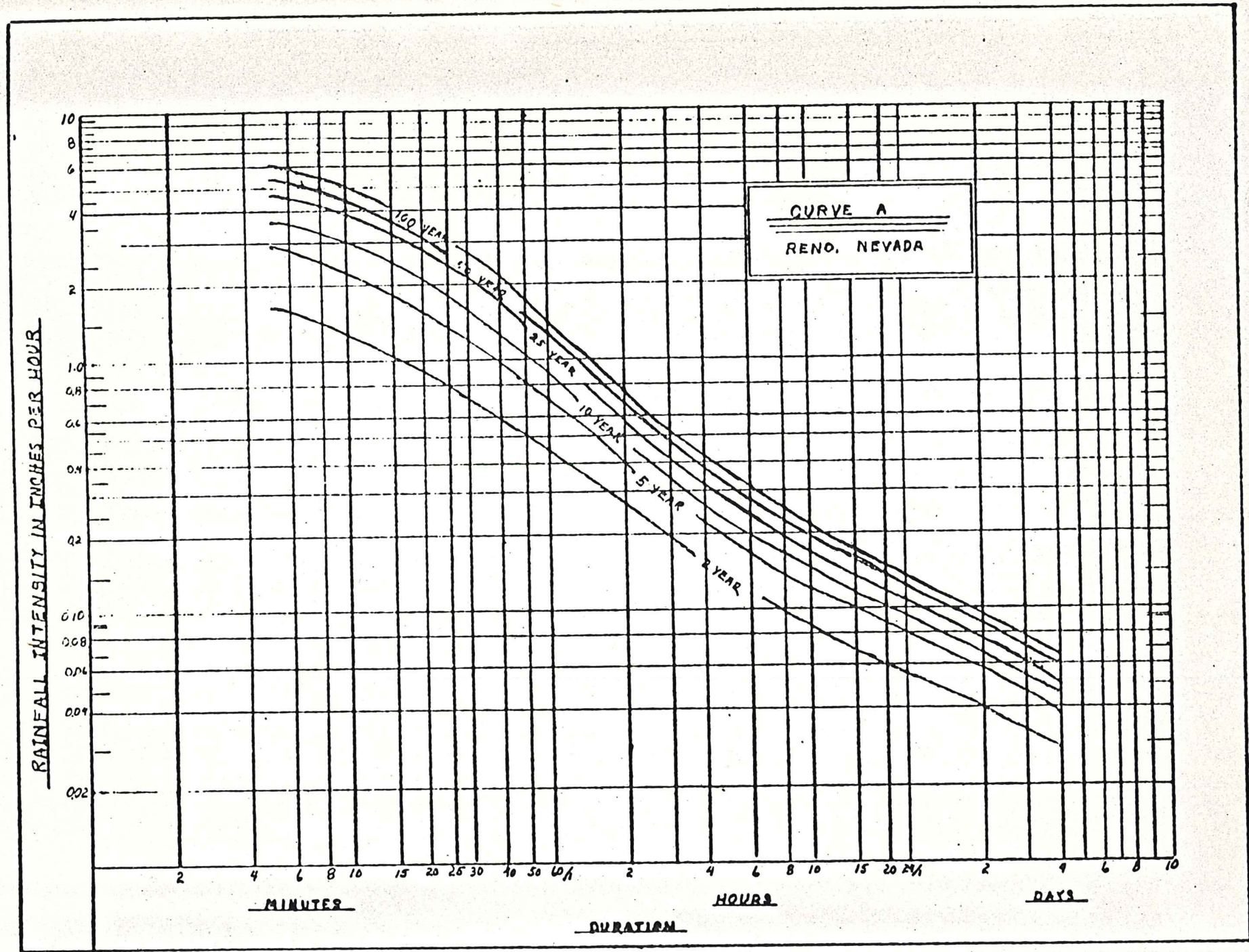




(22)

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(21)



II. Uniform Code for the Abatement of Dangerous Buildings,  
1973 Edition.

The following changes and additions in the 1973 Edition of the Uniform Code for the Abatement of Dangerous Buildings are hereby incorporated into the provisions of said Volume:

A. CHAPTER 2 - Enforcement

1. SECTION 201 (c) Right of Entry. Amend this subsection by deleting the last sentence of subparagraph 3. and substituting in its place the following sentence:

"Any person violating this Subsection shall be guilty of a separate offense of violating Washoe County Ordinance No. 83 for each and every day or portion thereof during which a violation of this Subsection is committed, continued, or permitted, and upon a determination or finding of any such violation such person shall be punished by a fine of not more than \$500.00.

2. SECTION 202. Abatement of Dangerous Buildings. Add the following sentence to this Section:

"In addition to the abatement procedure specified in Section 401 of this Code, any building or portion thereof determined by the Building Official to be dangerous as defined in this Code so as to constitute a nuisance within the meaning of this Code may be abated by order of any court of competent jurisdiction in any civil action instituted by the Washoe County District Attorney, pursuant to the authority of NRS 244.360(6) and Washoe County Ordinance No. 210.

3. SECTION 203. Violations. Amend this Section by deleting the last sentence and substituting in its place the following sentence:

"Any person violating the provisions of this Section shall be guilty of an offense of violating Washoe County Ordinance No. 83, and upon a determination or finding of any such violation such person shall be punished by a fine of not more than \$500.00.

B. CHAPTER 4 - Notices and Orders of Building Official.

1. SECTION 401. General. Add the following subsection (f) to this Section, which shall read as follows:



"(f) Additional Notice and Order After Any Extension of Time Granted by Building Official After Service of Original Notice and Order. If after proper service of a Notice and Order in accordance with the preceding subsections the Building Official or his authorized representative has granted any extension of time to any person to complete the work or comply with any provision stated in said Notice and Order prior to the time it has become final, said Building Official shall not record such Notice and Order and shall not proceed in accordance with Chapter 7 of this Code to enforce said Order until a new Notice and Order has been prepared and served on the persons entitled to same in accordance with the preceding subsections. The additional Notice and Order issued in accordance with this subsection shall, in addition to complying with the other requirements of this Section, concisely state (1) the action required to be taken as determined by the Building Official and (2) the time in which such action must be completed. If such required action is not completed in the time indicated and no further extensions of time have been granted, the Building Official may record such additional Notice and Order in accordance with Section 402 of this Code and may proceed with the enforcement of its provisions in the manner authorized in this Code."

2. SECTION 404. Notice to Vacate.  
Delete the last sentence of subparagraph (b) "Compliance" and substitute in its place the following:

"Any person violating the provisions of this subsection shall be guilty of an offense of violating Washoe County Ordinance No. 83, and upon a determination or finding of any such violation such person shall be punished by a fine of not more than \$500.00."

C. CHAPTER 5 - Appeal.

1. Add a new Section 505, which shall read as follows:

"SECTION 505. Filing Fee. At the time of filing a written appeal at the office of the Building Official in accordance with Section 501 of this Code, the person filing the appeal shall pay a filing fee in the total amount of twenty-five dollars (\$25.00) to the Building Inspector, who shall deposit such fee in the General Fund of the County of Washoe."

D. CHAPTER 7 - Enforcement of the Order of the Building Official or the Board of Appeals.

1. SECTION 701. Compliance



Delete the last sentence of subsection (a) of this Section and substitute in its place the following:

"Any such person who fails to comply with any such order shall be guilty of an offense of violating Washoe County Ordinance No. 83, and upon a determination or finding of any such violation such person shall be punished by a fine of not more than \$500.00."

III. Dwelling Construction Under the Uniform Building Code, 1973 Edition.

The changes and additions set forth below in the 1973 Edition of the Code known as Dwelling Construction Under the Uniform Building Code are hereby incorporated into the provisions of said Volume. All references to Code sections or Tables in the 1973 Edition of the Uniform Building Code shall include any changes, deletions, or additions in any of said sections or Tables as previously set forth in this Exhibit A.

A. "Legal Requirements, P. 1:

Under the Paragraph entitled "Penalties," delete the sentence appearing therein and substitute the following:

"Violations of the building code as incorporated in Washoe County Ordinance No. 83 are punishable by a fine not to exceed \$500.00 for each offense."



EXHIBIT B

There is hereby added to the 1973 Uniform Building Code the following additions pertaining and relating to the requirements for insulation standards for all structural occupancies.

The following Sections of the 1973 Uniform Building Code are amended by adding the following insulation requirements:

CHAPTER 6, REQUIREMENTS FOR GROUP A OCCUPANCIESAdd Section 610

The heat loss of any Group A occupancy shall be limited by the following standards for all new construction.

For each square foot of heated envelope surface not more than 14 Btu/hr will be permitted. See Parameters of Calculations in "Exhibit C" below.

A calculation of heat loss shall accompany each application for a building permit. Insulation and other thermal components of the structure shall be specified on the plans presented to the Building Department of the County of Washoe.

The design temperature difference shall be the difference between the inside design temperature in degrees Fahrenheit and -10° F. outside temperature as set forth in Exhibit "C" below under "Temperatures".

CHAPTER 7, REQUIREMENTS FOR GROUP B OCCUPANCIESAdd Section 710

The heat loss of any Group B1, B2, or B3 occupancy shall be limited by the following standard for all new construction.

For each square foot of heated envelope surface not more than 14 Btu/hr will be permitted. See Parameters of Calculations in "Exhibit C" below.

A calculation of heat loss shall accompany each application for a building permit. Insulation and other thermal components of the structure shall be specified on the plans presented to the Building Department of the County of Washoe.

The design temperature difference shall be the difference between the inside design temperature in degrees Fahrenheit and -10° F. outside temperature as set forth in "Exhibit C" below under "Temperatures".

CHAPTER 8, REQUIREMENTS FOR GROUP C OCCUPANCIESAdd Section 811

The heat loss of any Group C occupancy shall be limited by the following standard for all new construction.



For each square foot of heated envelope surface not more than 14 Btu/hr will be permitted. See Parameters of Calculations in "Exhibit C" below.

A calculation of heat loss shall accompany each application for a building permit. Insulation and other thermal components of the structure shall be specified on the plans presented to the Building Department of the County of Washoe.

The design temperature difference shall be the difference between the inside design temperature in degrees Fahrenheit and -10° F. outside temperature as set forth in "Exhibit C" below under "Temperatures".

CHAPTER 9, REQUIREMENTS FOR GROUP D OCCUPANCIES

Add Section 910

The heat loss of any Group D occupancy shall be limited by the following standard for all new construction.

For each square foot of heated envelope surface not more than 14 Btu/hr will be permitted. See Parameters of Calculations in "Exhibit C" below.

A calculation of heat loss shall accompany each application for a building permit. Insulation and other thermal components of the structure shall be specified on the plans presented to the Building Department of the County of Washoe.

The design temperature difference shall be the difference between the inside design temperature in degrees Fahrenheit and -10° F. outside temperature as set forth in "Exhibit C" below under "Temperatures".

CHAPTER 10, REQUIREMENTS FOR GROUP E OCCUPANCIES

Add Section 1010

The heat loss of any Group E Occupancy shall be limited by the following standard for all new construction.

For each square foot of heated envelope surface not more than 14 Btu/hr will be permitted. See Parameters of Calculations in "Exhibit C" below.

A calculation of heat loss shall accompany each application for a building permit. Insulation and other thermal components of the structure shall be specified on the plans presented to the Building Department of the County of Washoe.

The design temperature difference shall be the difference between the inside design temperature in degrees Fahrenheit and -10° F. outside temperature as set forth in "Exhibit C" below under "Temperatures".



CHAPTER 11, REQUIREMENTS FOR GROUP F OCCUPANCIESAdd Section 1110

The heat loss of any Group F Occupancy shall be limited by the following standard for all new construction.

For each square foot of heated envelope surface not more than 14 Btu/hr will be permitted. See Parameters of Calculations in "Exhibit C" below.

A calculation of heat loss shall accompany each application for a building permit. Insulation and other thermal components of the structure shall be specified on the plans presented to the Building Department of the County of Washoe.

The design temperature difference shall be the difference between the inside design temperature in degrees Fahrenheit and -10° F. outside temperature as set forth in "Exhibit C" below under "Temperatures".

CHAPTER 12, REQUIREMENTS FOR GROUP G OCCUPANCIESAdd Section 1209

The heat loss of any Group G Occupancy shall be limited by the following standard for all new construction.

For each square foot of heated envelope surface not more than 14 Btu/hr will be permitted. See Parameters of Calculations in "Exhibit C" below.

A calculation of heat loss shall accompany each application for a building permit. Insulation and other thermal components of the structure shall be specified on the plans presented to the Building Department of the County of Washoe.

The design temperature difference shall be the difference between the inside design temperature in degrees Fahrenheit and -10° F. outside temperature as set forth in "Exhibit C" below under "Temperatures".

CHAPTER 13, REQUIREMENTS FOR GROUP H OCCUPANCIESAdd Section 1314

The heat loss of any Group H Occupancy shall be limited by the following standard for all new construction.

For each square foot of heated envelope surface not more than 14 Btu/hr will be permitted. See Parameters of Calculations in "Exhibit C" below.

A calculation of heat loss shall accompany each application for a building permit. Insulation and other thermal components of the structure



shall be specified on the plans presented to the Building Department of the County of Washoe.

The design temperature difference shall be 80 Fahrenheit Degrees.

CHAPTER 14, REQUIREMENTS FOR GROUP I OCCUPANCIES

Add Section 1414

The heat loss of any Group I Occupancy shall be limited by the following standard for all new construction.

For each square foot of heated envelope surface not more than 14 Btu/hr will be permitted. See Parameters of Calculations in "Exhibit C" below.

A calculation of heat loss shall accompany each application for a building permit.\* Insulation and other thermal components of the structure shall be specified on the plans presented to the Building Department of the County of Washoe.

The design temperature difference shall be 80 Fahrenheit Degrees.

\*Exception: The heat loss calculation will be waived if the applicant chooses to satisfy the thermal code requirement by employing the "Specific Insulation Methods" set forth in "Exhibit C".



EXHIBIT C

The parameters of the thermal design calculations relating to the requirements for insulation standards of the 1973 Uniform Building Code as set forth in Exhibit "B" above for all structural occupancies are as follows:

THE PARAMETERS OF THE THERMAL DESIGN CALCULATIONS ARE:

TEMPERATURES

- 1. Outside Air -10° F
- 2. Inside 70° F\*
- 3. Design Temperature Difference 80° F\*
- 4. Ground Below Basement Floor 50° F
- 5. Vented Crawl Space +30° F
- 6. Ground Next to Edge of Slab Floor -10° F

\*Unless otherwise specified in code.

THERMAL COMPONENTS

- 1. The thermal ratings (values of R or U) shall be shown on the plans and shall be as given in the ASHRAE Handbook of Fundamentals, or by an independent testing agency recognized by the Washoe County Building Department.
- 2. Operable exterior windows and sliding doors shall be certified by an independent testing agency as to air infiltration; otherwise the air infiltration for purposes of calculation shall be assumed as 2.5 cubic feet per minute per foot of crack (2.5 cfm/ft).

CALCULATION OF HEAT LOSS

Either the ENVELOPE METHOD, which requires that the heat loss per square foot of the envelope be less than 14 BTU per hour, or the SPECIFIC INSULATION METHOD may be used.

ENVELOPE METHOD

The heat loss per square foot of envelope (Btu/hr/sq. ft.) can be gotten by adding the heat losses (Btu/hr) in the ceiling, floor, exterior walls, exterior windows and doors, (including air infiltration), and then dividing this total loss by the total area of the envelope.

- ✓ The air infiltration may be calculated either by the Crack Method or the Air Change Method. These are explained in the ASHRAE Handbook of Fundamentals.

EXAMPLE: CALCULATION BY THE ENVELOPE METHOD

Assume a typical frame structure, 28' x 58', with 8 foot ceiling, and a crawl space underneath. The ceiling has



insulation R-19, the walls have insulation R-11, and the floor has insulation R-11. The windows, single glazed, occupy 20% of the total vertical exterior wall area. The doors occupy 5% of this total area and are of 1.5" solid core construction. From ASHRAE the following are obtained:

(All doors weatherstripped.)

Windows:  $U = 1/R = 1.13$  Certified windows, .5cfm/ft. infiltration

Doors:  $U = 1/R = .49$  Infiltration .75 cfm/ft.

THE "CRACK METHOD" WILL BE USED FOR INFILTRATION CALCULATION

<u>Component</u>	<u>Area</u>	<u>Crack length</u>	<u>Factor</u>	<u>Heat Loss (Btu/hr)</u>
Ceiling	1624		80/19	6840
Floor	1624		40/11	5905
Walls	1051		80/11	7645
Windows (2) 5x10	100		1.13x80	9040
(10) 3x5	150		1.13x80	13560
(2) 2x3	12		1.13x80	1085
For all (14)		184 feet	73.6x.5	6770
Doors (3) 3x7	63		80x.49	2470
For all (3)		60 feet	73.6x.75	3312
<b>TOTALS</b>	<b>4624 sq. ft.</b>		<b>Heat loss</b>	<b>56627 BTU/hr.</b>

The loss per square foot, 12.24, indicates that the design is satisfactory from the standpoint of heat loss. This is in effect due to the use of certified windows and good doors.\* If a larger window area were desired, double glazed windows would be needed.

#### SPECIFIED INSULATION METHOD

If the thermal design does not adhere closely to the specifications given in the below-listed elements for frame and masonry construction, a heat loss calculation as given under the ENVELOPE METHOD will be required by the Building Department.

#### FOR FRAME CONSTRUCTION

**Ceiling:** The thermal resistance (R) must be equal to or larger than 19. The insulation may be loose fill, rigid slabs, or in blankets.

**Walls:** The R must be equal to or larger than 11.

**Floors:** (If it is of frame construction.) If above unheated space, the R shall be 11 or more.

**EXCEPTION:** The floor may be uninsulated if above a crawl space which has stem walls insulated with R 5 or more and the stem walls have closable vents.

\*Non-certified windows would have produced a heat loss of  $(2.5 \times 73.6) \times 184$  ft., or 33,856 Btu/hr for window infiltration, which would result in a total heat loss for the entire structure of 83,713 Btu/hr or 18.1 Btu/hr sq ft of envelope, which is not acceptable under the 14 Btu/hr sq ft as a standard.



Floors: (If it is a slab on grade.) Insulation with R 5 or more shall be placed around the outside edge (perimeter) of the slab and this insulation shall extend under the slab for at least two feet from the outside edge or two feet down.

Windows: If single glazed shall have a total area less than 15% of the total wall area (including windows and doors). If double glazed or if storm windows are used the total window area may be increased to 30%.

Doors: All exterior doors shall be weatherstipped and have a total area less than 2.5% of wall area. If storm doors are used, the total door area may be increased to 5% of the wall area.

FOR MASONRY CONSTRUCTION

Ceiling: Same as for frame construction R-19.

Floor: Same as for frame construction, R-11 for frame floor, R-5 for stem walls and for the edge of slab on grade. Crawl space must have closable vents.

Windows: All exterior windows must be double glazed and have a total area less than 15% of the total wall area.

Walls: The exterior walls shall have R equal to or larger than 7, inclusive of any insulation added to the surface of the masonry, such as that added between furring strips or fastened to the masonry by means of adhesives.

Doors: Same as for frame construction 2.5% of total wall area, 5% if storm doors are used.